



PROFILES IN soil health

Ed Curry, Curry Farms

Pearce, Arizona

2,200 acres

Crops: Chili long green, Anaheim peppers
(for seed), vegetables, alfalfa, cotton, beans

Covers: Multi-species



Desert farmer focuses on soil health to improve on-farm water retention, irrigation efficiency

Ed Curry knows that water is a precious, life-giving resource.

After all, he grows chili pepper seed, alfalfa, cotton and dry beans in a desert near Pearce, Ariz. Water, and the need to use it wisely and efficiently, has led Curry to focus his attention on another life-giving resource—the soil.

Getting his soil to function more effectively means he can irrigate more efficiently and hold on to whatever water may fall from the sky. The key to a better functioning soil, Curry said, is building organic matter and improving soil health.



To help promote soil health on their Pearce, Arizona farm, the Curry's plant cover crops like this center pivot-irrigated field of tillage radishes.

Through years of work, soils that typically had less than 1 percent of organic matter now have organic matter levels above 5 percent on Curry's farm. It's something that is "just about unheard of" in his area, he said, because most farmers plow, which decreases soil organic matter, and reduces the number of microorganisms living there.

But Curry didn't always "pan the plow."

"We went through the phase of shinning those plow bottoms up and turning all that under so that we could plant in this real beautiful shaped bed – and man its picture perfect for everything except the microbial activity in the soil," Curry said. "It's damn sure not picture perfect for them because you kill them."

And the desert heat takes its toll on microbes, even if you don't plow.

"In the desert, we get so hot that that the heat kills every bit of the microbial activity in the top half inch of soil. They cannot exist in that environment," he said.

To protect those microbes and their beneficial impact on soil health, Curry keeps cover crops growing and plant residue on the soil surface to provide insulation from the intense desert heat. Thanks to advanced planting technology, Curry is able to no-till plant through the residue to reduce soil disturbance and to preserve the protective residue.

But Curry admits, not everyone is a believer.

"A lot of guys think the cover crop takes water to grow so that is wasting water. And there is a fine line there," he said. "I don't know where that line is but I will tell you if it is done right I believe in the end we are still going to conserve water where we planted a cover crop and in the end we are going to save more water than we used building it, or starting it."

For Curry, the proof is already there.

"When we improved our soil health the last two years the one thing we have seen is the plants don't stress. And we have such capacity of water holding that we don't have to water," he said.

But before the days of healthy soil, the situation was much different, Curry recalls. "We were watering, watering, watering trying to keep plants healthy as the temperatures reached 95-100 degrees," he said. "And then along would come a two-inch rain storm and



Willcox District Conservationist Penny Driscoll (left), and farmer Ed Curry (right) reviewing a conservation plan in a field of cover crops on the Curry Farm.

there goes your diseases, the leaf spots everything else would just go 'gaga! Whereas, when our soil health is right you control both sides of that fence."

Like other soil health farmers, Curry said he's still learning.

"I even now realize that there is so much more to learn." - Ed Curry

"I think we are just touching the hem of the garment. I even now realize that there is so much more to learn," he said. "We are doing everything we can to keep soil health really good and thanks to our local NRCS they have even been out and helped us through their assistance. So it's not just me, it's a compilation of several of us working together."

The one thing Curry knows for certain is he will not go back to conventional farming.

"I just don't see us taking a step backwards to more plows," he said. "In fact, I sold one of my plows just the other day and I was tickled to get rid of it because we don't need it."

Want to unlock the secrets in YOUR soil?

Go to: www.nrcs.usda.gov